

Amendments to the Claims:

This listing of claims will replace all previous versions and listings of claims in the application:

1-12. (canceled)

13. (currently amended) A transgenic vector comprising a humanized Ig locus, wherein said humanized Ig locus is derived from an Ig locus or a portion of an Ig locus of a non-human animal, other than a bird, and comprises multiple Ig gene segments wherein at least one of said gene segments is a human gene segment, wherein said gene segments are juxtaposed in an unrearranged, partially rearranged or fully rearranged configuration, and wherein said humanized Ig locus is capable of undergoing gene conversion and producing a repertoire of humanized immunoglobulin in said non-human animal.

14. (original) The transgenic vector of claim 13, wherein said non-human animal is an animal which generates antibody diversity substantially by gene conversion.

15. (currently amended) The transgenic vector of claim 14, wherein said non-human animal is rabbit, pig, sheep or cow.

16. (original) The transgenic vector of claim 13, wherein said humanized Ig locus is a heavy chain locus and comprises at least one V gene segment, at least one D gene segment, at least one J gene segment and at least one constant region gene segment.

17. (original) The transgenic vector of claim 16, wherein said constant region gene segment is a human heavy chain constant region gene segment.

18. (original) The transgenic vector of claim 17, wherein said human heavy chain constant region gene segment is a C γ .

19. (original) The transgenic vector of claim 17, comprising about 10-100 V gene segments and at least one human V gene segment, wherein said human V gene segment is placed downstream to said 10-100 gene segments.

20. (original) The transgenic vector of claim 19, wherein said V gene segments are selected from V gene segments at the 3' V-region of said non-human animal and human V gene segments.

21. (original) The transgenic vector of claim 13, wherein said humanized Ig locus is a light chain locus and comprises at least one V gene segment, at least one J gene segment and at least one constant region gene segment.
22. (original) The transgenic vector of claim 21, wherein said constant region gene segment is an human light chain constant region gene segment.
23. (original) The transgenic vector of claim 22, wherein said human light chain constant region gene segment is C λ or C κ .
24. (original) The transgenic vector of claim 22, comprising about 10-100 V gene segments and at least one human V gene segment, wherein said human V gene segment is placed downstream to said 10-100 V gene segments.
25. (original) The transgenic vector of claim 24, wherein said V gene segments are selected from V gene segments at the 3' V-region of said non-human animal and human V gene segments.
26. (original) The transgenic vector of claim 22, wherein said human V gene segment is placed immediately 5' to a J gene segment in a rearranged configuration.
27. (currently amended) A method of making a transgenic vector comprising a humanized Ig locus capable of producing a functional repertoire of humanized antibodies in a non-human animal, other than a bird, comprising:
- (i) obtaining a DNA fragment comprising an Ig locus or a portion thereof from said non-human animal, other than a bird, which comprises at least one V gene segment, at least one J gene segment and at least one constant region gene segment; and
 - (ii) integrating at least one human Ig gene segment into said DNA fragment of step (i) to produce a humanized Ig locus, wherein said human Ig gene segment is linked to the sequences of non-human origin operably as to permit gene rearrangement and gene conversion of said humanized Ig locus and the production of a functional repertoire of humanized antibodies in said non-human animal.
28. (original) The method of claim 27, wherein the integration of said human Ig gene segment is achieved by homologous recombination, thereby replacing an Ig gene segment in said Ig locus or said portion thereof from said non-human animal.

29. (original) The method of claim 28, wherein the homologous recombination is achieved in a bacterial cell, a yeast cell, or a non-human animal cell.

30. (original) The method of claim 28, wherein the human Ig gene segment is provided on a recombination vector, and is linked to a 5' nucleotide sequence and a 3' nucleotide sequence which are homologous to the 5' and 3' flanking sequences of said Ig gene segment from the non-human animal.

31-66. (canceled)

67. (new) A transgenic vector comprising a humanized Ig locus, wherein regulatory sequences of said humanized Ig locus are identical to the sequence of an Ig locus of a non-human animal, wherein said humanized Ig locus comprises two or more Ig gene segments encoding human immunoglobulin polypeptide sequences flanked and separated by non-coding sequences from said non-human animal, wherein said Ig gene segments are juxtaposed in an unrearranged, partially rearranged or fully rearranged configuration, and wherein said humanized Ig locus is capable of undergoing gene conversion and producing a repertoire of humanized immunoglobulins in said non-human animal.

68. (new) The transgenic vector of claim 67, wherein said non-human animal is an animal which generates antibody diversity substantially by gene conversion.

69. (new) The transgenic vector of claim 68, wherein said non-human animal is rabbit, pig, chicken, sheep or cow.

70. (new) The transgenic vector of claim 67, wherein said humanized Ig locus is a heavy chain locus and comprises at least two human V gene segments, at least one D gene segment, at least one J gene segment and at least one constant region segment.

71. (new) The transgenic vector of claim 67, wherein said humanized Ig locus is a light chain locus and comprises at least two human V gene segments, at least one J gene segment, and at least one constant region gene segment.

72. (new) The transgenic vector of claim 70, wherein the non-human animal is a rabbit, and at least one of said non-coding sequences comprises the sequence of SEQ ID NO: 10, or SEQ ID NO: 12, or SEQ ID NO: 13.

73. (new) The transgenic vector of claim 70, wherein the non-human animal is a cow, and at least one of said non-coding sequences comprises the sequence of SEQ ID NO: 3, SEQ ID NO: 4, or SEQ ID NO: 5.

74. The transgenic vector of claim 70, wherein said non-human animal is a sheep, and at least one of said non-coding sequences comprises the sequence of SEQ ID NO: 8, or SEQ ID NO: 9.

75. The transgenic vector of claim 71, wherein said non-human animal is a rabbit, and at least one of said non-coding sequences comprises the sequence of SEQ ID NO: 11.

76. A transgenic vector comprising a humanized Ig locus, wherein at least 90% of said humanized Ig locus is identical to the sequence of the Ig locus of a non-human animal, wherein said humanized Ig locus comprises at least one Ig gene segment encoding human immunoglobulin polypeptide sequences flanked and separated by non-coding sequences of said non-human animal, wherein said gene segments are juxtaposed in an unrearranged, partially rearranged or fully rearranged configuration, and wherein said humanized Ig locus is capable of undergoing gene conversion and producing a repertoire of humanized immunoglobulins in said non-human animal.